



UL Verification Services Inc.  
7036 Snowdrift Road  
Allentown, PA 18106  
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## Photometric Test Report

Relevant Standards  
IES LM-79-2008, ANSI C82.77-2002

**Prepared For**  
**Auroralight Inc**

Stacia Elmore  
2742 Loker Ave W  
#100  
Carlsbad, CA 92010-6619  
United States

**Catalog Number**  
**LSM4-4-27 (4W, 2700K)**

Order Number  
14012719  
Test Number  
14012719.12

Test Date

2021-09-24

Prepared By

Cordaryl Cousar, Technician

Approved By

Alexa Lambert, Project Handler

The results contained in this report pertain only to the tested sample.  
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**Luminaire Description:** Circular metal mounting plate with metal dome  
**Lamp:** One (1) XP-L 2700K Cree LED  
**Mounting:** Surface – Wall  
**Ballast/Driver:** PROPRIETARY

**Luminaire**



**Luminaire Characteristics**

Luminous Length: 1.00 in.  
Luminous Width: 2.250 in.  
Luminous Height: 1.75 in.

**Summary of Results**

Roadway Classification: Type I, Very Short  
Cutoff Classification: Noncutoff  
BUG Rating: B0 U1 G0

**Test Conditions**

Test Temperature: 25.0 °C  
Voltage: 12.05 VAC  
Current: 0.3853 A  
Power: 4.632 W  
Power Factor: 0.998  
Frequency: 60 Hz  
Current THD: 4.37 %

Tested in 30 planes left side, 30 planes right side, left and right averaged  
Vertical test increments are 2.5 degrees  
Test distance exceeds five times the greatest luminous opening of luminaire

Laboratory results may not be representative of field performance  
Ballast factors have not been applied



## Distribution - Goniophotometer

### Distribution Test Conditions

Temperature	Voltage	Current	Power	Power Factor	Frequency	Current THD
25.0 °C	12.05 VAC	0.3853 A	4.632 W	0.998	60 Hz	4.37 %

### Summary of Results

#### Spacing Criteria

0-180: 1.41  
90-270: 1.20

#### Total Lumen Output:

314.2 Lumens

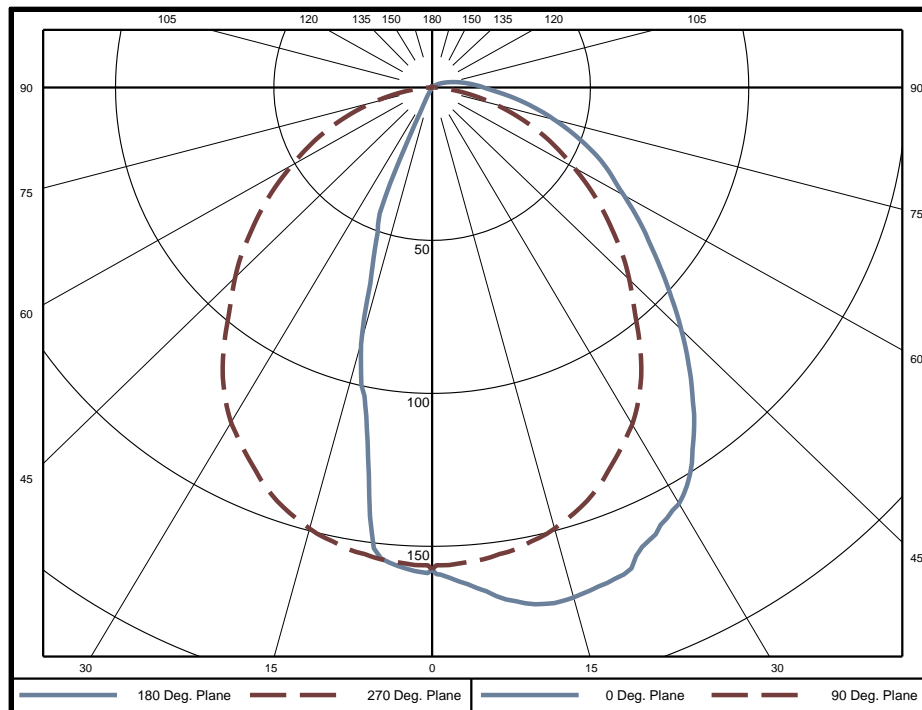
#### Luminaire Efficacy:

67.8 lm/w

#### Maximum Candela:

173 Candela

### Polar Plot



### Zonal Lumen Summary

Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire	Zone	Lumens	% of Luminaire
0-5	3.78	1.2%	60-65	16.27	5.2%	120-125	0.27	0.1%
5-10	11.20	3.6%	65-70	13.48	4.3%	125-130	0.19	0.1%
10-15	17.41	5.5%	70-75	10.47	3.3%	130-135	0.13	0.0%
15-20	22.22	7.1%	75-80	7.51	2.4%	135-140	0.09	0.0%
20-25	25.45	8.1%	80-85	4.84	1.5%	140-145	0.06	0.0%
25-30	26.68	8.5%	85-90	2.87	0.9%	145-150	0.05	0.0%
30-35	27.58	8.8%	90-95	1.92	0.6%	150-155	0.05	0.0%
35-40	27.22	8.7%	95-100	1.42	0.5%	155-160	0.04	0.0%
40-45	25.71	8.2%	100-105	1.05	0.3%	160-165	0.03	0.0%
45-50	23.89	7.6%	105-110	0.76	0.2%	165-170	0.03	0.0%
50-55	21.57	6.9%	110-115	0.55	0.2%	170-175	0.02	0.0%
55-60	19.00	6.0%	115-120	0.39	0.1%	175-180	0.01	0.0%

Zone	Lumens	% of Luminaire
0-40	162	51.4%
0-60	252	80.1%
0-90	307	97.8%
90-180	7	2.2%



### Candela Tabulation

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	22.5	45	67.5	90	112.5	135	157.5	180	202.5	225	247.5	270	292.5	315	337.5
	0	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6	157.6
	5	164.3	163.2	160.9	157.2	155.4	155.4	156.1	155.8	155.9	155.8	156.1	155.4	155.4	157.2	160.9
	10	171.2	169.0	164.9	157.7	153.3	152.4	150.6	132.8	117.8	132.8	150.6	152.4	153.3	157.7	164.9
	15	172.8	170.2	166.2	157.1	149.5	147.4	114.2	96.6	87.1	96.6	114.2	147.4	149.5	157.1	166.2
	20	170.8	168.5	163.7	154.5	143.9	135.3	91.5	60.2	50.5	60.2	91.5	135.3	143.9	154.5	163.7
	25	163.4	162.8	157.9	148.6	135.6	112.1	61.9	36.4	8.2	36.4	61.9	112.1	135.6	148.6	157.9
	30	157.2	155.4	150.6	141.4	127.2	92.2	43.7	5.5	0.9	5.5	43.7	92.2	127.2	141.4	150.6
	35	144.7	143.2	138.6	130.0	115.8	76.4	26.5	0.8	0.2	0.8	26.5	76.4	115.8	130.0	138.6
	40	128.8	126.0	122.0	114.4	101.2	60.0	13.7	0.1	0.1	0.1	13.7	60.0	101.2	114.4	122.0
	45	112.4	109.7	106.6	100.6	88.6	46.8	5.0	0.1	0.1	0.1	5.0	46.8	88.6	100.6	106.6
	50	96.6	94.2	91.3	86.5	76.0	35.5	1.7	0.1	0.0	0.1	1.7	35.5	76.0	86.5	91.3
	55	83.0	80.1	77.1	73.0	63.9	26.0	0.8	0.1	0.0	0.1	0.8	26.0	63.9	73.0	77.1
	60	70.7	67.2	63.6	59.7	51.9	18.6	0.4	0.0	0.0	0.0	0.4	18.6	51.9	59.7	63.6
	65	60.9	56.2	51.7	47.6	41.1	13.3	0.2	0.0	0.0	0.0	0.2	13.3	41.1	47.6	51.7
	70	50.5	45.5	40.4	35.5	30.3	8.9	0.1	0.0	0.0	0.0	0.1	8.9	30.3	35.5	40.4
	75	40.1	35.6	29.8	24.2	20.2	5.5	0.0	0.0	0.0	0.0	0.0	5.5	20.2	24.2	29.8
	80	30.8	26.4	20.2	14.2	11.1	3.0	0.0	0.0	0.0	0.0	0.0	3.0	11.1	14.2	20.2
	85	22.4	18.6	12.5	6.4	4.0	1.1	0.0	0.0	0.0	0.0	0.0	1.1	4.0	6.4	12.5
	90	16.5	13.5	8.0	2.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.2	0.4	2.5	8.0
	95	12.7	10.2	5.7	1.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	1.5	5.7	10.2
	100	9.5	7.6	4.3	1.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2	4.3	7.6
	105	6.9	5.5	3.2	0.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9	3.2	5.5
	110	4.9	4.0	2.3	0.8	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8	2.3	4.0
	115	3.4	2.8	1.7	0.6	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6	1.7	2.8
	120	2.3	1.9	1.3	0.5	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	1.3	1.9
	125	1.5	1.3	0.9	0.4	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	0.9	1.3
	130	0.9	0.8	0.7	0.4	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.4	0.7	0.8
	135	0.5	0.5	0.5	0.3	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.3	0.5
	140	0.2	0.2	0.3	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.3
	145	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1
	150	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1
	155	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1
	160	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1
	165	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2
	170	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
	175	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
	180	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

### Average Luminance (cd/m<sup>2</sup>)

Horizontal Angle (Degrees)

Vertical Angle (Degrees)	0	45	90
	0	108600	108600
	45	39810	48520
	55	28480	36330
	65	20890	25130
	75	14180	13750
	85	8430	4611



### Utilization of Lumens - Zonal Cavity Method

Effective Floor Cavity Reflectance 20%																		
Ceiling Cavity Reflectance	80				70				50			30			10			0
Wall Reflectance	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
Room Cavity Ratio (RCR)	** Values are expressed as Lumens delivered to the task surface **																	
0	372	372	372	372	363	363	363	363	345	345	345	329	329	329	314	314	314	307
1	342	327	314	303	332	319	308	297	305	295	287	291	284	277	279	273	267	260
2	313	289	268	251	304	282	263	248	270	254	241	259	246	234	248	238	228	221
3	288	256	232	213	279	251	229	211	241	222	206	231	215	202	222	209	197	191
4	265	230	204	184	258	225	201	182	216	196	179	208	190	176	201	186	173	166
5	245	207	181	161	238	203	178	160	196	174	157	189	170	155	183	166	153	146
6	228	188	162	143	222	185	160	142	179	157	140	173	153	138	168	150	137	130
7	212	172	146	128	207	169	145	127	164	142	126	159	139	124	154	137	123	117
8	199	158	133	116	194	156	132	115	151	129	114	147	127	113	143	125	112	106
9	186	146	122	105	182	144	121	105	140	119	104	136	117	103	133	115	102	97
10	175	136	112	96	171	134	111	96	131	110	95	127	108	95	124	107	94	89

#### Beam and Field Information

CIE Type:	Direct
Center Beam Intensity:	157.6 Candela
Central Cone Intensity:	158 Candela
Beam Flux:	208.5 Lumens
Beam Angle (0-180):	72.6 Degrees
Beam Angle (90-270):	97.9 Degrees
Field Angle (0-180):	115.2 Degrees
Field Angle (90-270):	154.7 Degrees

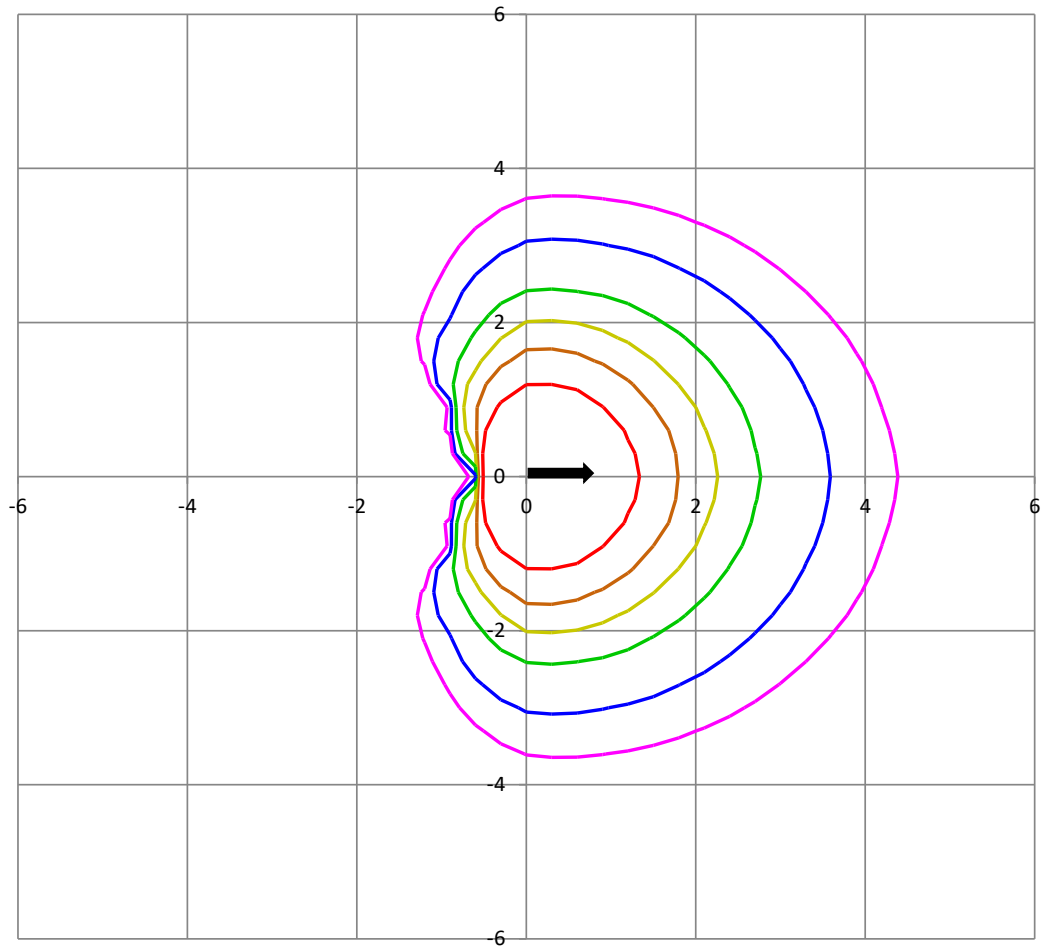
#### Cone of Light Tabulation

Mounting Height (Feet)		Footcandles at Nadir	Diameter (Feet)
4.00		9.85	3.94
6.00		4.38	5.90
8.00		2.46	7.87
10.0		1.58	9.84
12.0		1.09	11.8
14.0		0.804	13.8
16.0		0.616	15.7



## ISOFootcandle Plot

Mounting Height - 2 Feet



Grid Lines in Units of Mounting Height

5fc 2fc 1fc 0.5fc 0.2fc 0.1fc



**IES "BUG" Rating**  
(Back Light, Uplight, Glare)  
Per IES TM-15-11



Luminaire Classification System (LCS)

LCS	Zone	Lumens	Luminaire %
FL	(0-30)	66.7	21.1%
FM	(30-60)	116.4	36.9%
FH	(60-80)	41.4	13.1%
FVH	(80-90)	7.2	2.3%
BL	(0-30)	40.6	12.9%
BM	(30-60)	29.3	9.3%
BH	(60-80)	6.5	2.1%
BVH	(80-90)	0.5	0.2%
UL	(90-100)	3.3	1.1%
UH	(100-180)	3.7	1.2%
Total		315.5	100.0%
<b>BUG Rating</b>	<b>B0 U1 G0</b>		